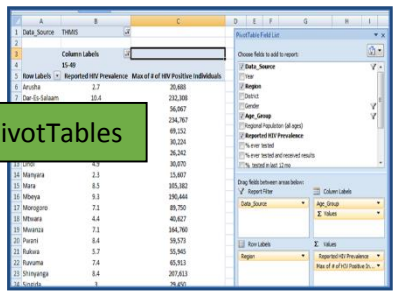
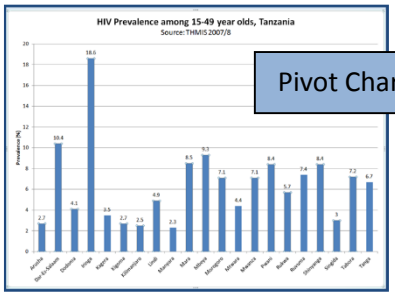
PivotTables & Charts for Health

Data Inputs

	A	B	C	D	E	F	G	H
1	Data_Source	Year	Region	District	Gender	Age_Group	Regional Population (all ages	Reported HIV Prevalenc
2	ANC	2008	Dar-Es-Salaam	*	Female	15-24	-	4.25
3	ANC	2008	Dodoma	*	Female	15-24	-	2.45
4	ANC	2008	Kagera	*	Female	15-24	-	3.6
5	ANC	2008	Kilimanjaro	*	Female	15-24	-	3.15
6	ANC	2008	Mbeya	*	Female	15-24	-	11.2
7	ANC	2008	Mtwara	*	Female	15-24	-	4.35
8	ANC	2008	Kigoma	*	Female	15-24	-	1.05



PivotTables



Pivot Charts

Global Strategic Information

UCSF Global Health Sciences

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1.1. Introduction

This manual offers a systematic approach to using PivotTables for health surveillance and M&E. An Excel PivotTable is an interactive worksheet that provides a powerful tool for summarizing large amounts of tabular data. A PivotTable functions like a cross-tabulation table to:

i. Calculate totals, averages, medians, and counts based on source data
ii. Classify data based on other fields in the source data and display in a table
iii. Auto-generate charts

To demonstrate how to use this tool, we will follow an example using mock Malaria surveillance data. It is important to remember that although the manual is organized in a step-by-step format, the use of PivotTables is an iterative process. As new information becomes available, previous steps may need to be revisited.

Software Requirements

To produce visual outputs, users will need software and basic operational knowledge of Excel. This manual will refer to Excel 2007 but all Microsoft Office versions have this capability.

Materials used in this manual were adapted from : http://www.excel-easy.com/

Special thanks to the UCSF Global Health Group and Asia Pacific Malaria Elimination Network for contributing knowledge and content to this manual

1.2. Data Inputs

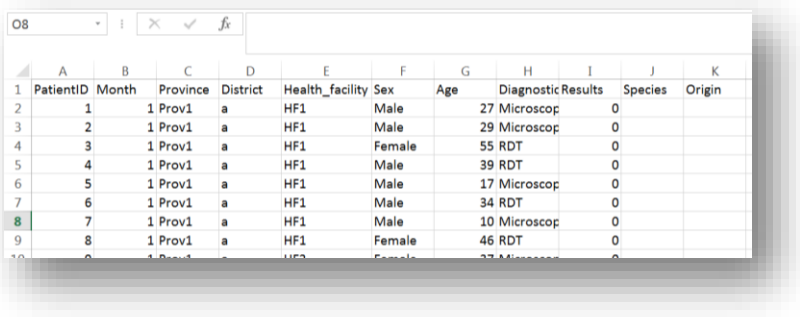
An Excel dataset consists of rows (individual records displayed horizontally), columns (groups or indicators displayed vertically), and data items (contents within rows and columns). Data to be used in PivotTables must first be input into a Microsoft Excel spreadsheet using the following format:

Columns: Descriptive characteristics, indicators

Row 1: Column Headers

Rows 2+: Data items

The matching contents within a column must be identical



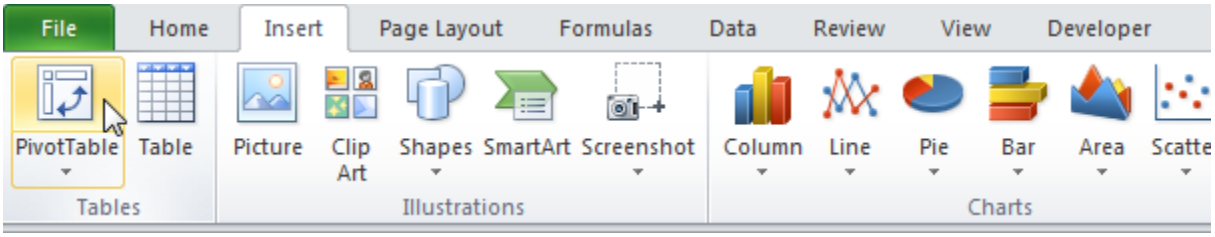
	A	B	C	D	E	F	G	H	I	J	K
1	PatientID	Month	Province	District	Health_facility	Sex	Age	Diagnostic	Results	Species	Origin
2	1	1	Prov1	a	HF1	Male	27	Microscop	0		
3	2	1	Prov1	a	HF1	Male	29	Microscop	0		
4	3	1	Prov1	a	HF1	Female	55	RDT	0		
5	4	1	Prov1	a	HF1	Male	39	RDT	0		
6	5	1	Prov1	a	HF1	Male	17	Microscop	0		
7	6	1	Prov1	a	HF1	Male	34	RDT	0		
8	7	1	Prov1	a	HF1	Male	10	Microscop	0		
9	8	1	Prov1	a	HF1	Female	46	RDT	0		

1.3. Insert PivotTable

To insert a PivotTable, execute the following steps.

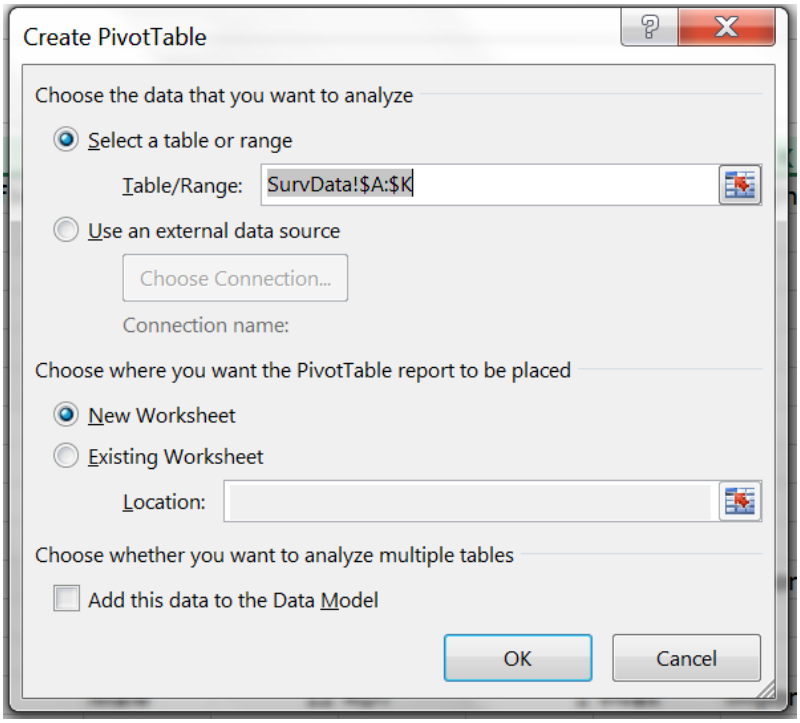
1. Click any single cell inside the data set.

2. On the Insert tab, click PivotTable.



The following dialog box appears. Excel automatically selects the data for you. The default location for a new PivotTable is New Worksheet.

3. Click OK.



1.3.1. PivotTable Field List

The PivotTable Report is in the center and the PivotTable field list is on the right. The fields in the PivotTable Field List are as follows:

Fields to add to report: Columns in the input dataset and any other calculated indicators

Report Filter: Filters out data you *do not* want to include in your table (e.g. exclude males to show only data for females)

Row Labels: Data grouped in the rows of your table

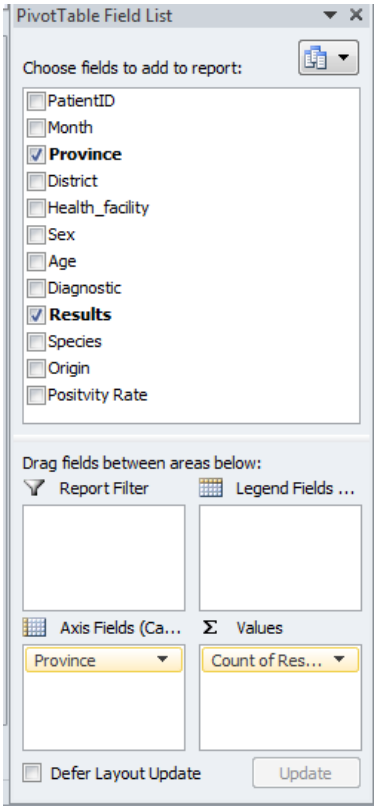
Column Labels: Data grouped in the columns of your table

Values: The contents of your table

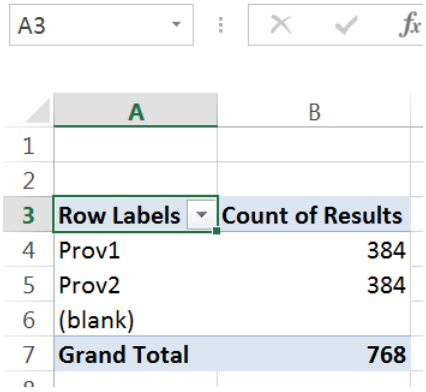
Note: If the PivotTable Field List dialog box is hidden, you can unhide it in two ways:

1. *Select "Options" (in the PivotTable "Tools Ribbon") → "Field List" (in "Show/Hide Group")*
2. *Within the PivotTable, right-click and select "Show Field*

To create your PivotTable, drag indicators from the upper window of the PivotTable Field List to the lower windows.



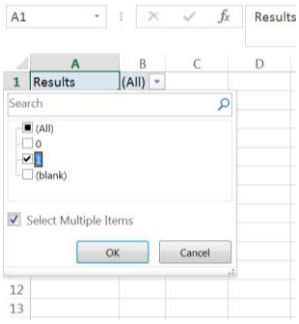
Your PivotTable Report will begin to develop



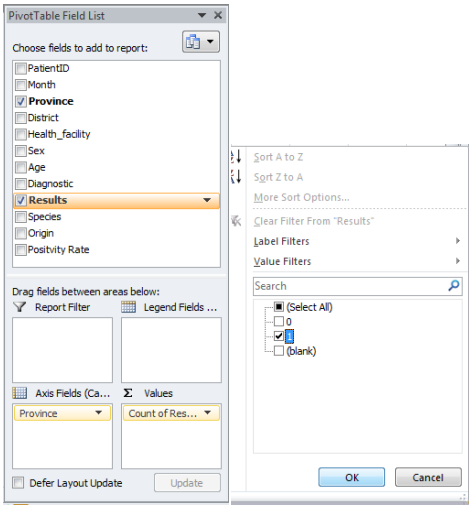
1.3.2. Filters

PivotTables allow for certain elements to be included and others to be excluded using the filter function. We can filter out (exclude) elements two ways:

1. Click the filter drop-down arrow next to the contents to be filtered in the PivotTable Report. Uncheck the boxes next to the contents you wish to exclude from the table.



2. Click the filter drop-down arrow next to the contents to be filtered in the PivotTable Field List. Uncheck the boxes next to the contents you wish to exclude from the table.



3. Select OK.

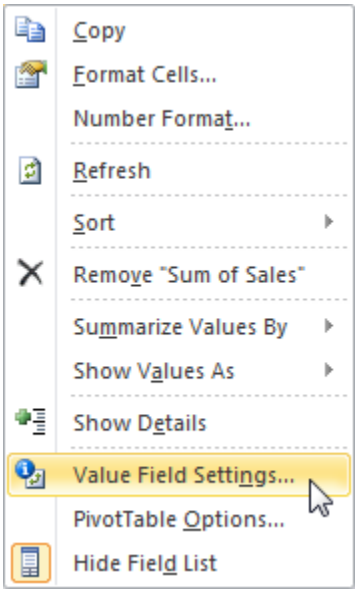
Be sure to review the table to ensure that all the proper filters were utilized and that data make reasonable sense.

1.3.3. Value Field Settings

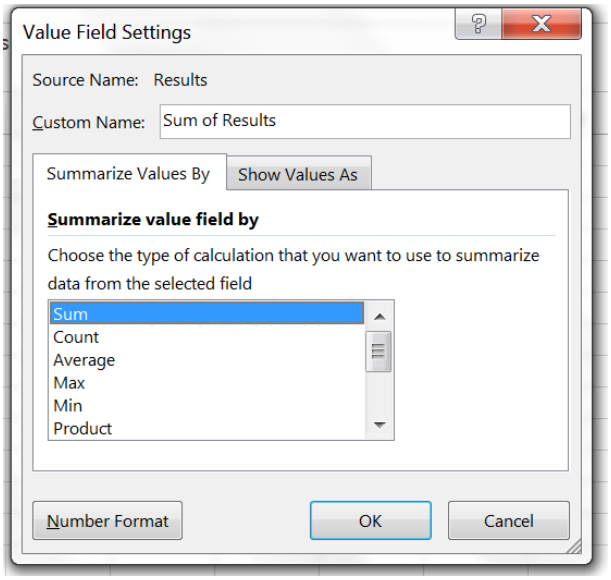
By default, Excel summarizes values using either the sum function (sum of values within a certain indicator) or the count function (counting the values or classifications within a certain indicator). To change a value summary or calculation, execute the following steps:

1. Double click within the header column in the Pivot Report.

2. Click on Value Field Settings.



3. Choose the type of calculation you want to use. For example, click Sum.



4. Click OK.

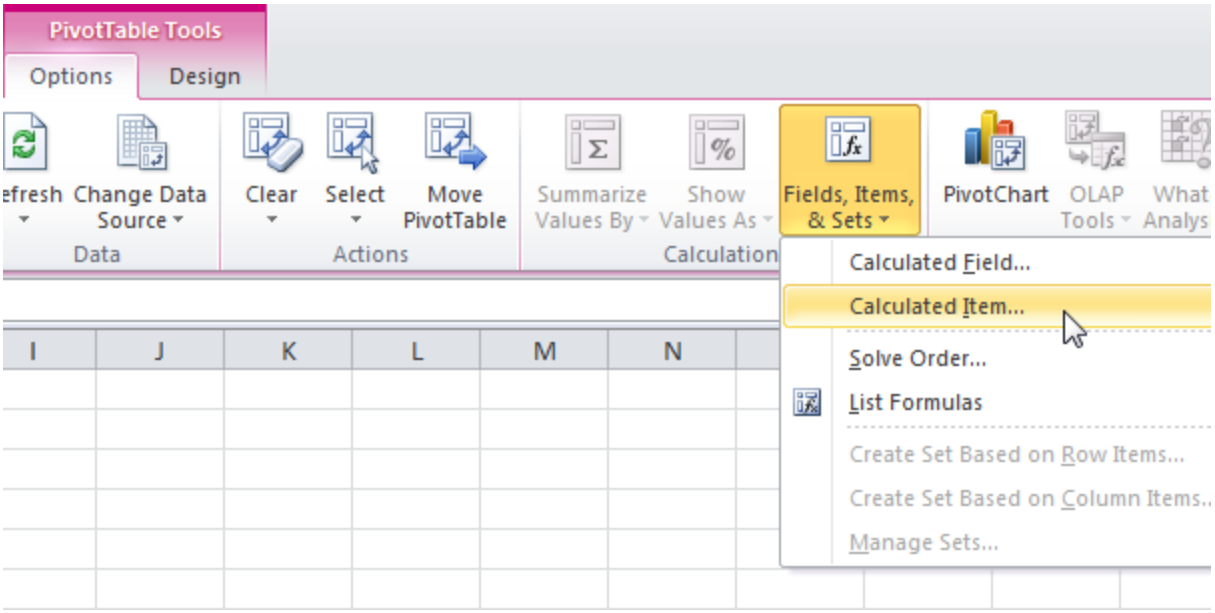
1.3.4. Calculated Item

A calculated item uses the values from other items within the same field or indicator. To insert a calculated item, execute the following steps.

1. Drag the field you wish to calculate item(s) from into the Row Column window

2. On the Options tab, Select Fields, Items, & Sets

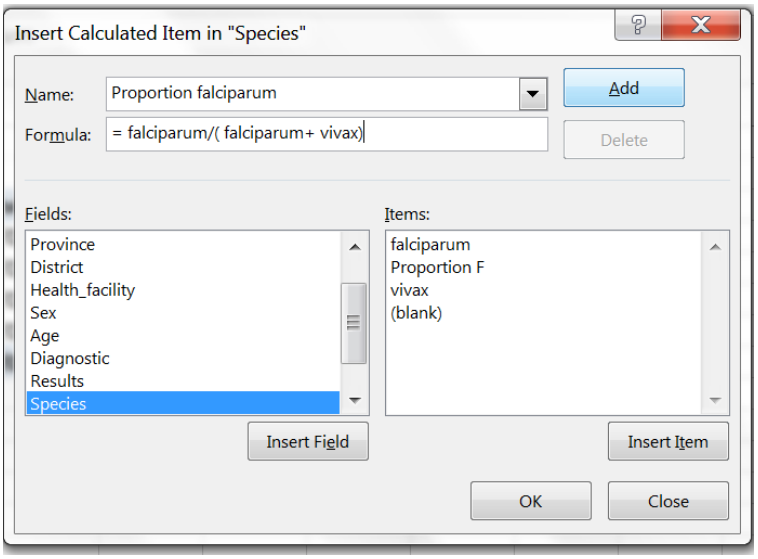
3. Select Calculated Item.



3. Enter a name for your new indicator for Name.

4. Enter a formula using the same format as in Excel. Select items from the lower Items window to define your formula.

5. Click Add.



Note: use the Insert Item button to quickly insert items when you type a formula. To delete a calculated item, select the item and click Delete (under Add).

7. Click OK.

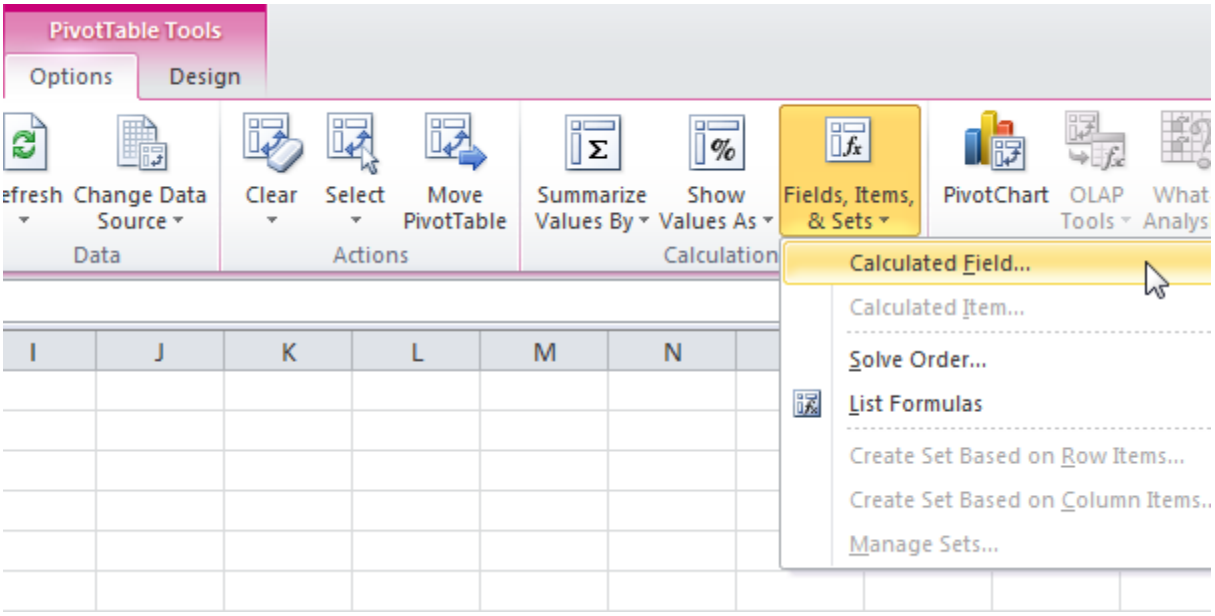
1.3.1. Calculated Field

A calculated field uses the values from another field (e.g. create a formula using other indicators). To insert a calculated field, execute the following steps:

1. Click any cell inside the PivotTable Report.

2. The PivotTable Tools contextual tab activates. On the Options tab, Select Fields, Items, & Sets

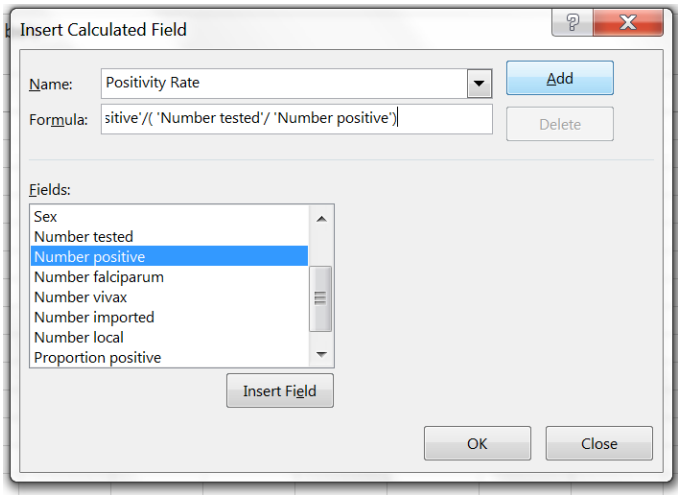
3. Select Calculated Item.



3. Enter a name for your new indicator for Name.

4. Enter a formula using the same format as in Excel

5. Click Add.



Note: use the Insert Field button to quickly insert fields when you type a formula. To delete a calculated field, select the field and click Delete (under Add).

6. Click OK.

7. Drag this new indicator to the Values area in your PivotTable Field List to see the results.

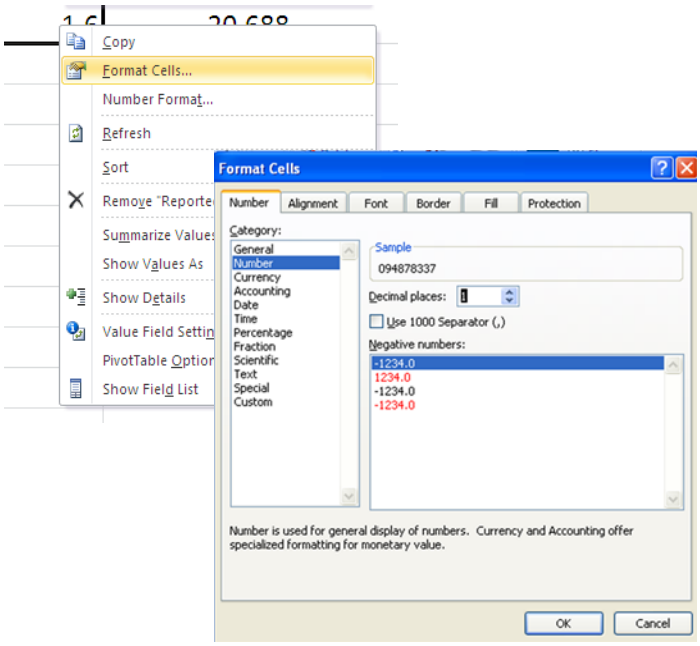
1.3.2. Format PivotTables

Cell contents

Edit PivotTable Report appearance similar to other Excel elements.

1. Right click a cell within the PivotTable

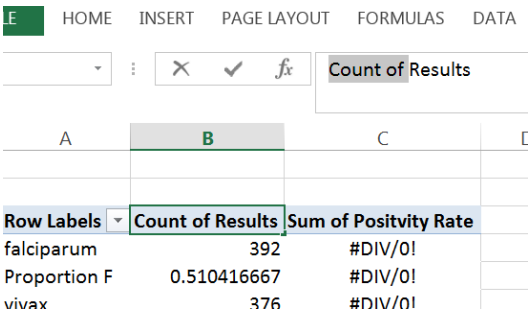
2. Select Format Cells and adjust the appearance of the contents



Column header

1. To change the header of a column, click on the header cell

2. Select the text box at the top of the worksheet and type your preferred header

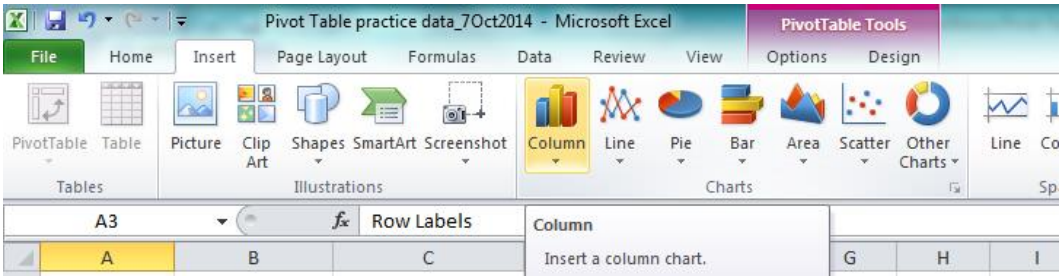


1.4. Insert Pivot Chart

To insert a pivot chart, simply insert a chart.

1. Click any cell inside the PivotTable Report.

2. On the Insert tab, select a chart type such as Column



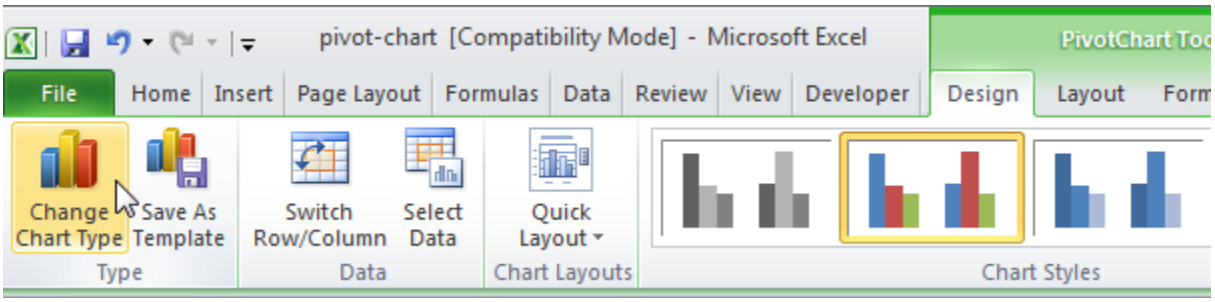
1.4.1. Format Pivot Charts

Change chart type

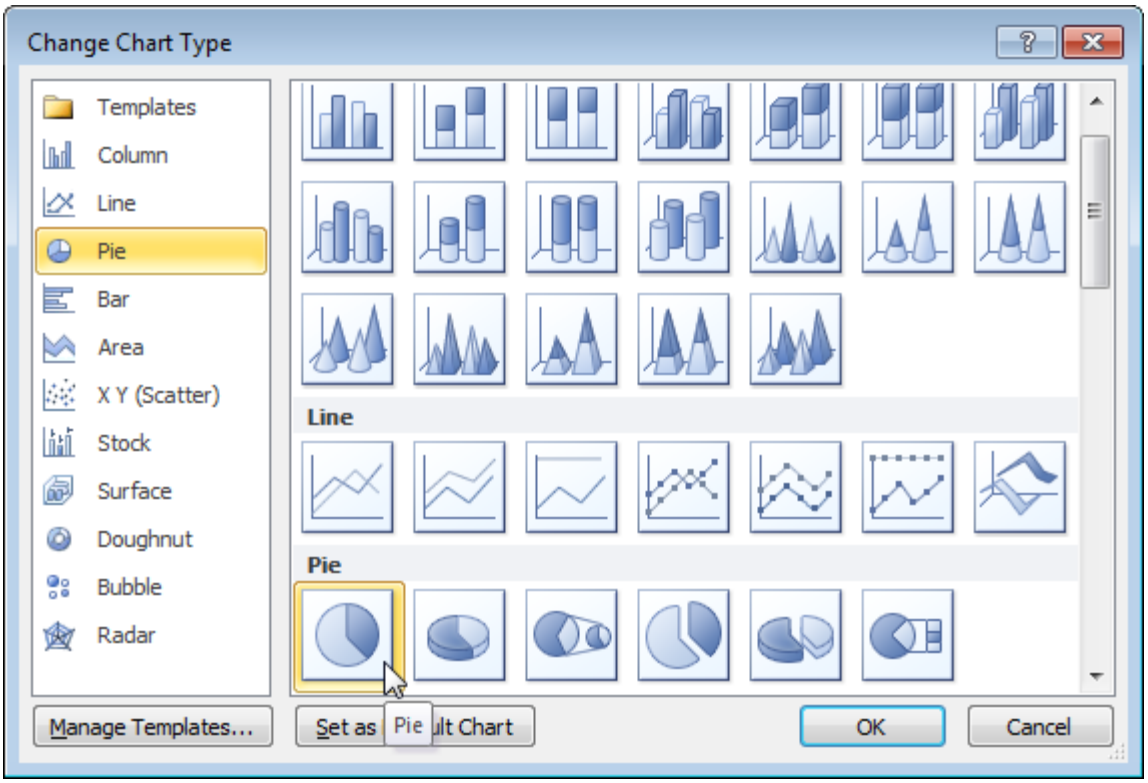
You can change to a different type of pivot chart at any time.

1. Select the chart.

2. The PivotChart tools contextual tab activates. On the Design tab, click Change Chart Type.



3. Select a new chart type.



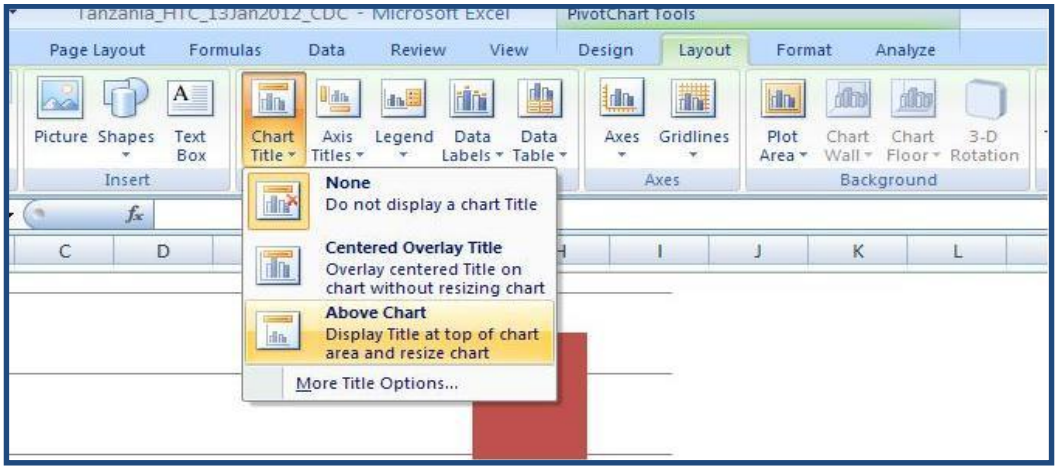
4. Click OK.

Add a Title

1. Highlight your graph.

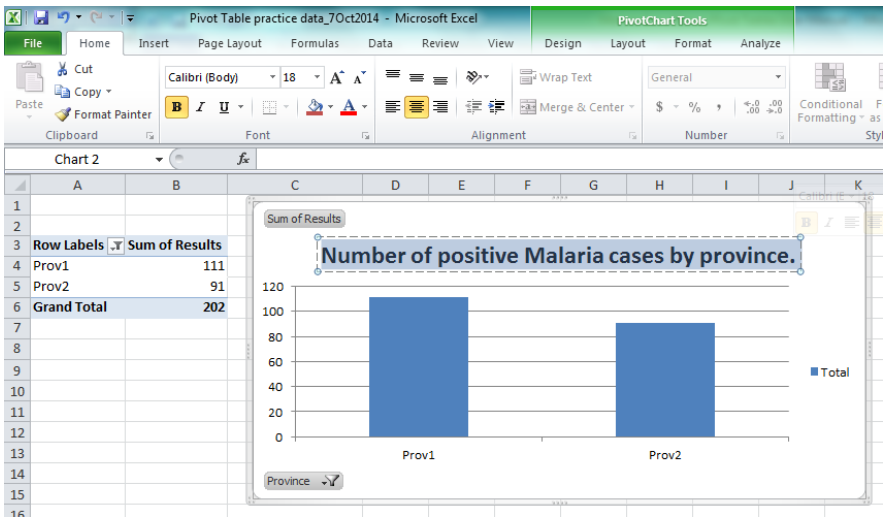
2. Under the Layout ribbon, select Chart Title

3. Choose the orientation of your title (Above, Centered, None)



4. Double-click in the title text box

5. Select the Home ribbon to change the text font, color, style, or size

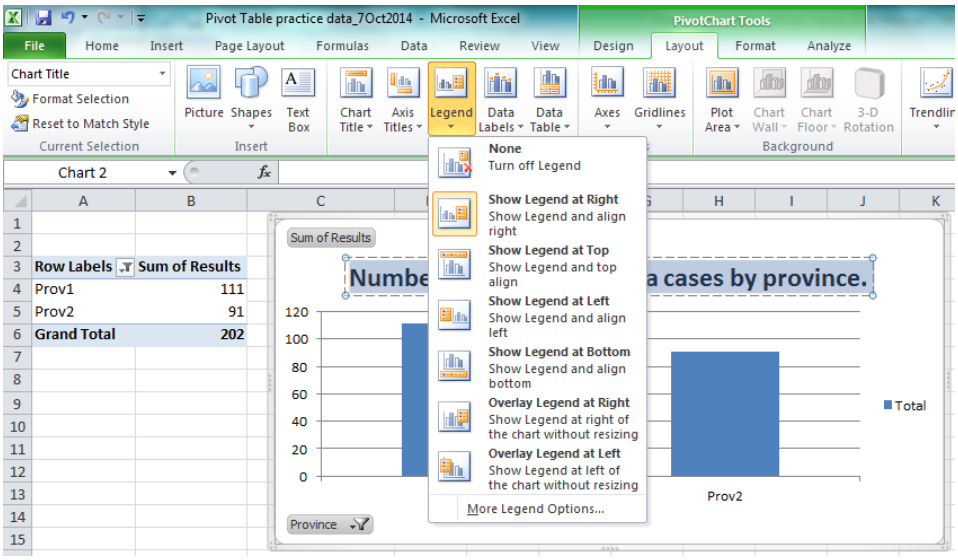


Add a legend

1. Highlight your graph.

2. Under the Layout ribbon, select Legend

3. Choose the orientation of your Legend

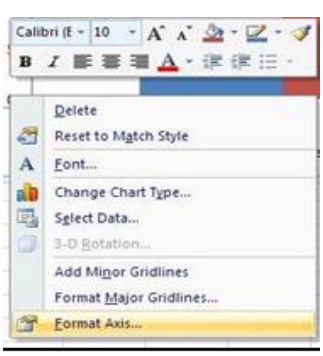


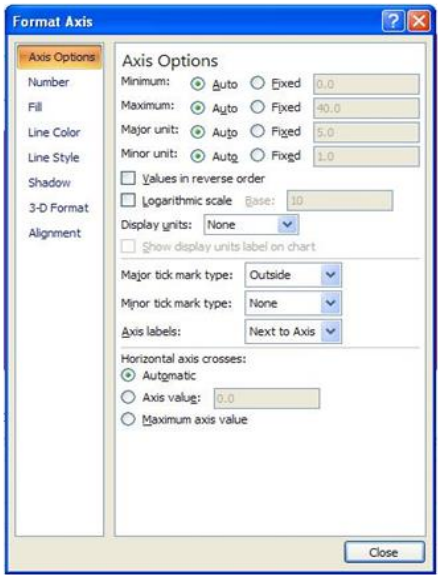
Format axes

1. Right click one of the chart axes.

2. Select Format Axis

3. Select preferred formatting options





Change element color

1. Right-click an element you wish to change (e.g. line, bar, data point).

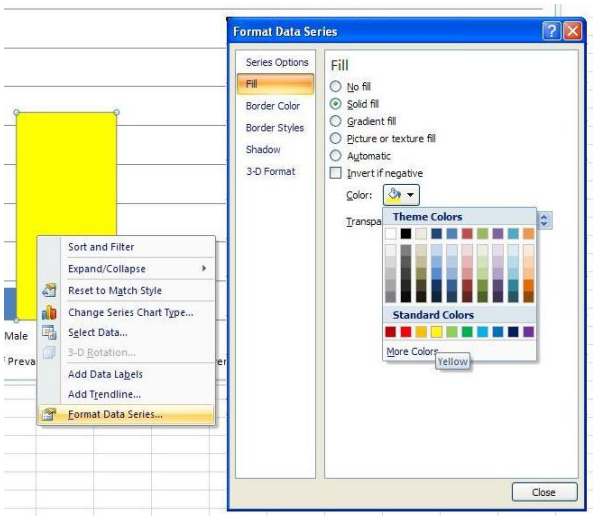
2. Select Format Data Series

3. Select preferred formatting options

4. Select Fill

5. Select Solid fill

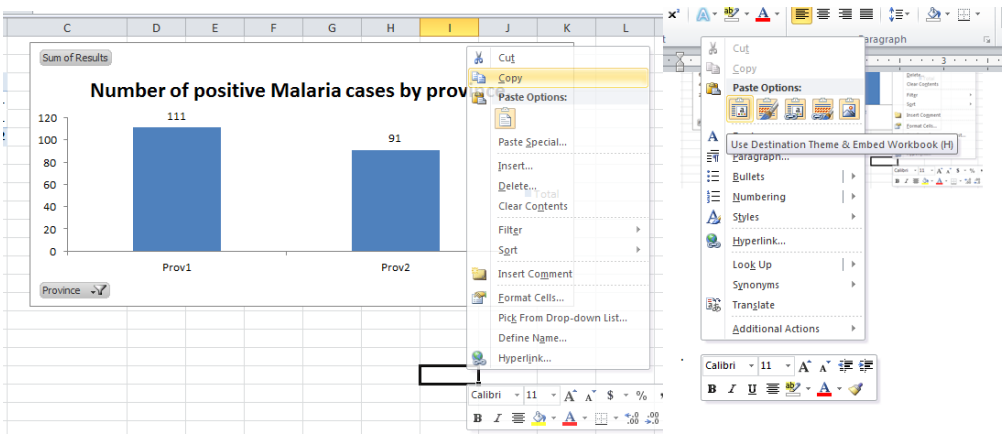
6. Select color



1.5. *Finalize PivotTables and Charts*

After you have created a table or chart that adequately visualizes your data, paste your final table into another Microsoft Application (Word, PowerPoint, or Excel) to save.

1. Highlight the table or chart
2. Copy the element
3. Open a new Microsoft Word document, PowerPoint presentation, or Excel worksheet or workbook.
4. Paste the chart or table without linking data. Depending on the version of Microsoft Office you have, either Paste Normal, or Select Use Destination Theme & Embed Workshop under Paste Options



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